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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,934	11/03/2003	Ikuo Takahashi	032044	5043

38834 7590 01/18/2006

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EXAMINER

NUTTER, NATHAN M

ART UNIT PAPER NUMBER

1711

DATE MAILED: 01/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	Application No. 10/698,934	Applicant(s) TAKAHASHI ET AL.	
	Examiner Nathan M. Nutter	Art Unit 1711	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on 01 November 2005.
- 2a)  This action is **FINAL**.
- 2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4)  Claim(s) 1-10 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1-10 is/are rejected.
- 7)  Claim(s) \_\_\_\_\_ is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a)  All b)  Some \* c)  None of:
      - 1.  Certified copies of the priority documents have been received.
      - 2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      - 3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5)  Notice of Informal Patent Application (PTO-152)
- 6)  Other: \_\_\_\_\_

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### **DETAILED ACTION**

This application has been re-assigned to Examiner Nathan M. Nutter in Art Unit 1711. All inquiries regarding this application should be directed to Examiner Nutter at telephone number 571-272-1076.

#### ***Response to Appeal Brief***

In response to the Appeal Brief filed 1 November 2005, the present Examiner has decided to re-open prosecution on the application, as filed.

As such, the following is being placed in effect.

Applicant's Appeal Brief filed in response to the Final Rejection made in the last Office action of 3 May 2005 is persuasive in-part and, therefore, the finality of that action is withdrawn.

The rejection of claims 1-10 under 35 U.S.C. 103(a) as being unpatentable over Fujihara et al (US 2002/128344) in view of Hird et al (US 5,759,569), Gaglani et al (US 6,353,021) or Ohsawa et al (US 6207235) is hereby expressly withdrawn.

New grounds of rejection and objection will follow.

#### ***Specification***

The disclosure is objected to because of the following informalities:

A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Appropriate correction is required.

***Claim Interpretations- Conventional Use***

The claims recite broadly the inclusion into a resin of (B) a carbodiimide compound and at least one compound (C) selected from the group consisting of benzotriazole-, triazine- and hydroxylamine-based compounds. The combination of these additives is well-known and previously employed in the prior art.

Note the reference to Kaufhold et al (US 6,559,266), newly cited, at column 7 (line 37) to column 8 (line 51) for the conjunctive use of a benzotriazole and a carbodiimide, including the use of TINUVIN 328 of page 22, final full paragraph of the Specification. The reference teaches the use of the carbodiimide as an anti-hydrolysis agent at column 2 (lines 36-39).

Note the reference to Kaufhold et al (US 6,527,995), newly cited, at column 9 (line 15) to column 10 (line 24) for the conjunctive use of a benzotriazole and a carbodiimide, including the use of TINUVIN 328 of page 22, final full paragraph of the Specification.

The patent to Prissok et al (US 5,900,439), newly cited, shows the conventional usage of hydrolysis inhibitors of carbodiimides with adjunctive use of benzotriazoles "for preventing thermal oxidation." Note column 2 (lines 1-33). Further, note column 3 (lines 18-31). Both components are added to resins to prevent oxidation reactions. Note column 1 (lines 60-67).

The reference to Murschall et al (US 6,855,758), newly cited, shows the combination at column 3 (lines 39-54) for the carbodiimides and column 7 (lines 10 et seq.) for the UV stabilizers, including benzotriazoles. The reference teaches clearly that

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the “use of UV stabilizers in combination with hydrolysis stabilizers leads to useful films with excellent properties” at column 7 (lines 57-60).

The reference to Murschall et al (US 2003/0091843), newly cited, shows the conjunctive use of the carbodiimides with a benzotriazole UV stabilizer at paragraphs [0017], [0019], [0053]-[0058]. Again, this reference shows the “use of UV stabilizers in combination with hydrolysis stabilizers leads to useful films with excellent properties” at paragraph [0053].

The employment of the two recited additives is deemed to be conventional to those having an ordinary skill in the art. Applicants’ assertions of a synergistic effect of a “greater hydrolysis resistance” are deemed irrelevant since the combination is so widely known and shown to produce “useful films with excellent properties.” Any use of the combination would produce the identical synergistic effect as alleged by applicants. Nothing in the claims is drawn to any synergistic effect.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for “aliphatic co-polyesters”, does not reasonably provide enablement for “biodegradable plastic,” as is claimed. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these

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claims. The Specification provides support for a small number of aliphatic co-polyesters. There is no broad support or even teachings of the use of other known biodegradable plastic materials, including those of polysaccharides, such as cellulose or starch and or their derivatives, polyvinyl alcohols, etc..

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 recites the process of "controlling biodegradation rate (*sic*) of a biodegradable plastic" by compounding the resin with components (B) and (C) "**in such a way** to adjust its biodegradability." The claim does not recite any aspect of "such a way" and it cannot be determined what the metes and bounds of this might be. As such, the instant claim is deemed to be vague and confusing.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-10 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of copending Application No. 11/051,462 in view of Kaufhold et al (US 6,559,266), Kaufhold et al (US 6,527,995) or Prissok et al (US 5,900,439), all newly cited. The copending application teaches the manufacture of a biodegradable plastic composition that at paragraphs [0044] to [0049] employs a carbodiimide and at paragraph [0126] may employ UV absorbing agents.

Note the reference to Kaufhold et al (US 6,559,266) at column 7 (line 37) to column 8 (line 51) for the conjunctive use of a benzotriazole, a known UV stabilizer, and a carbodiimide, including the use of TINUVIN 328 of page 22, final full paragraph of the Specification. The reference teaches the use of the carbodiimide as an anti-hydrolysis agent at column 2 (lines 36-39).

Note the reference to Kaufhold et al (US 6,527,995) at column 9 (line 15) to column 10 (line 24) for the conjunctive use of a benzotriazole, as an ultraviolet light stabilizer, and a carbodiimide, including the use of TINUVIN 328 of page 22, final full paragraph of the Specification.

The patent to Prissok et al (US 5,900,439) shows the conventional usage of hydrolysis inhibitors of carbodiimides with adjunctive use of benzotriazoles, a known

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“UV filter” and stabilizer “for preventing thermal oxidation.” Note column 2 (lines 1-33). Further, note column 3 (lines 18-31). Both components are added to resins to prevent oxidation reactions. Note column 1 (lines 60-67).

The employment of the two recited additives is deemed to be conventional to those having an ordinary skill in the art, and subsequent use in the composition of the copending application, on the suggestion thereof in said copending application, would have been obvious.

This is a provisional obviousness-type double patenting rejection.

Claims 1-10 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-13 of copending Application No. 11/172,904 in view of Kaufhold et al (US 6,559,266), Kaufhold et al (US 6,527,995) or Prissok et al (US 5,900,439). The copending application teaches the manufacture of a biodegradable plastic composition that in claims 1-13 employs a carbodiimide and at paragraph [0059] may employ UV absorbing agents.

Note the reference to Kaufhold et al (US 6,559,266) at column 7 (line 37) to column 8 (line 51) for the conjunctive use of a benzotriazole, a known UV stabilizer, and a carbodiimide, including the use of TINUVIN 328 of page 22, final full paragraph of the Specification. The reference teaches the use of the carbodiimide as an anti-hydrolysis agent at column 2 (lines 36-39).

Note the reference to Kaufhold et al (US 6,527,995) at column 9 (line 15) to column 10 (line 24) for the conjunctive use of a benzotriazole, as an ultraviolet light



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stabilizer, and a carbodiimide, including the use of TINUVIN 328 of page 22, final full paragraph of the Specification.

The patent to Prissok et al (US 5,900,439) shows the conventional usage of hydrolysis inhibitors of carbodiimides with adjunctive use of benzotriazoles, a known "uv filter" and stabilizer "for preventing thermal oxidation." Note column 2 (lines 1-33). Further, note column 3 (lines 18-31). Both components are added to resins to prevent oxidation reactions. Note column 1 (lines 60-67).

The employment of the two recited additives is deemed to be conventional to those having an ordinary skill in the art, and subsequent use in the composition of the copending application, on the suggestion thereof in said copending application, would have been obvious.

This is a provisional obviousness-type double patenting rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kage et al (US 5,714,220), newly cited.

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Note the Abstract, column 2 (lines 28-51), column 5 (line 46) to column 6 (line 43), column 9 (line 57) to column 11 (line 11, column 12 (lines 23-34) and the Examples.

Claims 1-4, 6 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi et al (US 4,500,686), newly cited.

Note column 1 (lines 28 et seq.), column 2 (lines 45-48), column 4 (lines 28-55), the paragraph bridging column 5 to column 6, and the many Examples, especially Examples 17, 18, 19 and 20 at columns 13 and 14.

### ***Response to Arguments***

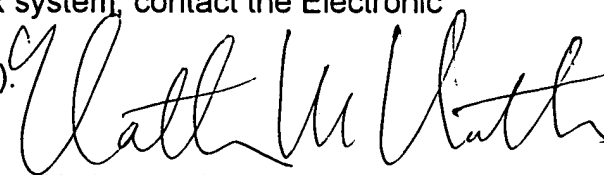
Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new grounds of rejection.

Due to the new grounds of rejection, this action is not being made FINAL.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan M. Nutter whose telephone number is 571-272-1076. The examiner can normally be reached on 9:30 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nathan M. Nutter  
Primary Examiner  
Art Unit 1711

nmn

16 January 2006